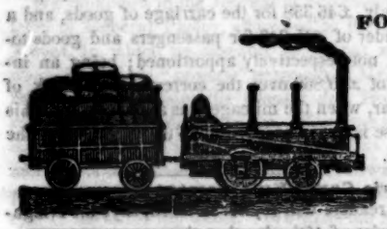
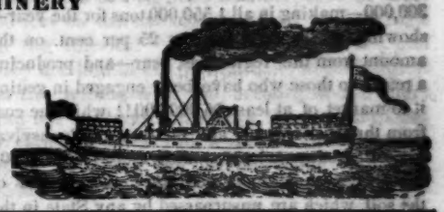
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY AND MINES.





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Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, October 9, 1847.

TO CONTRACTORS.—KENNEBEC AND PORTLAND RAILROAD.—Proposals will be received at this office, until the 14th of October, for the Grading and Masonry of 14¼ miles of this road, extending from Portland to North Yarmouth.

The line of road and the plans and profiles can be seen at this office, where any information in relation to the work can be obtained.

Persons unknown to the officers of the company, must accompany their bids with satisfactory evidence of their ability to complete the work.

GEORGE S. GREENE,
Engineer K. & P. R. R.

Engineer's Office, K. & P. R. R., }
Brunswick, October 2, 1847. } 1141

The Iron Trade.

The London Mining Journal, of 28th August, quotes rails at £8 10 to £9, average—and Scotch pig at 67 to 68s., cash—with few transactions. Estimated there is 100,000 tons on hand.

Welsh and Staffordshire continue in good demand—and prices firm.

The pressure in the money market has, to a certain extent, interfered with the progress of the railway system, which, with the increase in the manufacture of railway iron in this country, has caused a decline in the price of the English article.

Hudson River Railroad.

The following letter from Mr. Jervis, in reply to one asking information in relation to this important work under his charge, will be read with pleasure by those who have watched the progress of the enterprize. Many doubted the intention, and others the ability, of those who first moved in the matter, to carry it successfully through—and a larger number *still* doubt the *ability* of even the best railroad ever made, or *to be* made, to compete successfully with *such steamboats*, on *such* a *river* as the Hudson. We must admit that we were, for a long time, among those not sanguine of the early construction of the road—but never doubted the ability of the parties, nor of its eminent success, if constructed in a proper manner, which we are *now* quite convinced will be the case.

The opinions of Mr. Jervis, in relation to low fares, are entitled to consideration, as they have been adopted after long and careful investigation; and in opposition, we believe, to contrary opinions previously entertained. That they will be sustained by the result we do not entertain a doubt; and we believe, with him, that the Hudson river railroad will do much—if not "more than any other"—for the railroad enterprize. It—if *any* railroad in the country—will test the question, whether a good railroad can compete with the *best steamboats*, and steamboat navigation in the world, in carrying passengers; as the Reading railroad will test the question as to the ability of railroads to carry heavy freights, in competition with one of the best canals in the country.

OFFICE HUDSON RIVER RAILROAD, }
New York, 13th Sept., 1847. }

DEAR SIR,—Your letter of 11th instant came to hand this morning.

With the exception of two or three small sections we have this road under contract, from the city to Break Neck Hill, a distance of 55 miles, which carries the line to the Northern verge of the Highlands. Many of the contractors have commenced operations, and we shall soon have an active and vigorous progress of this part of the work—a work that is to do more for railroad enterprize than any yet undertaken in this country. We are to compete with a first rate steamboat navigation, which it is obvious we could not succeed against if we made an ordinary road; but with the easy grades, and the road we design to make, I have no fears of entire success; that is, so far as to make a diversion sufficient to sustain the road. We shall move smooth and easy, at 30 to 40 miles per hour, and at the low fare guage; it will be wonderful if we do not have passengers notwithstanding all the inducements steamboats can offer.

We carry a solid embankment, protected by a heavy river wall, where the line runs below high water mark, in the river, making bridges no further than is necessary to freely pass the water of streams, and allow free circulation of tide in the bays. Our total length of bridging, on the line now under contract, is less than 5000 feet.

Our line has been carefully located, and quantities computed from actual measurement; and by the contract it appears we shall get the work done within the estimate.

After much examination and reflection on this subject, I am fully persuaded, that on all important thoroughfares, through populous districts, the low fare system can be successfully sustained, on well made, and well conducted railroads, and afford good profits on the investments. We intend to demonstrate this on the Hudson River Road, and by doing so we shall confer a benefit on the public.

Respectfully, Your Obedient Servant,
JOHN B. JERVIS.

Telegraphs in England.

"The pipes," says the Chronicle, "opening the communication of the electric telegraph between Lothbury and the south of the metropolis were laid down on the 4th inst.

"The company, it is said, will open direct lines of communication to fifty of the principal towns within three months."

Illinois and Michigan Canal.

This great work is approaching to completion.—The Chicago Journal says: "A gentleman connected with the work upon the Kankakee feeder assures us that it will be completed by the 15th of November. It was feared this portion of the work would be the last to be finished, but it is now as much advanced as any portion of the heavy work upon the line. About 300 feet of masonry per day will soon complete it, which is the rate at which it progresses. The balance of the machinery for pumping water upon the summit level, arrived yesterday from Erie in the Susquehannah. It is manufactured by Col. W. J. Totten, of Pittsburg, who superintends putting it in place here. The machinery is capable of elevating 10,000 cubic feet of water per minute, and will be ready for use in about 60 days. A drive to

Canal port a few days since—the point where the canal intersects the river—convinced us that the works in progress there, were much nearer completion than we had anticipated."

Schuylkill Coal Trade.

The following reports show that 1,218,150 tons of coal have been sent from the Schuylkill region this year—which is nearly equal to the entire amount of last year, with twelve weeks remaining yet for operations—in which they will probably get down about 300,000—making in all 1,550,000 tons for the year—showing an increase of about 25 per cent. on the amount from this region last year—and producing a return to those who have been engaged in getting it to market, of at least $6,000,000!! while the coal from thr other regions, and the *iron*, of Pennsylvania will produce at least as much more—or $12,000,000 for her *minerals*, in addition to the products of the soil, which are unsurpassed by any State in the Union. With such resources, and the completion of her public works, Pennsylvania must become one of the most wealthy States in the Union.

Philadelphia and Reading Railroad.—Amount of coal transported during the week ending Thursday, October 7, 1847.

	Tons.	cwt.
From Port Carbon	11,102	16
" Pottsville	5,554	04
" Schuylkill Haven	15,230	00
" Port Clinton	2,045	02
Total for week	34,932	02
Previously this year	1,014,132	01
Total	1,049,064	03

Henry M. Walker,
Supt. Coal Tr. P. & R. R. R. Co.

Schuylkill Navigation.—Week ending October 7, 1847.

	Tons.	cwt.
Pottsville and Port Carbon	3,603	13
Schuylkill Haven	1,163	10
Port Clinton	00	00
This week	4,767	03
Previously	164,318	19
Total	169,086	02

Connection of the St. Lawrence with Lake Champlain.

We learn from the Montreal Herald that the project for a canal from Caughnawaga to St. Johns has been received with so much favor by the Provincial government, that Mr. Barrett, the engineer connected with the board of works, has been directed to make a preliminary survey. The result of this examination of the ground is most favorable. It appears that the distance between the St. Lawrence navigation and that of Lake Champlain does not exceed 20 miles, and that it would be impossible to find any piece of land which offers so many facilities for such an undertaking. Its utility admits of no doubt; for it is manifest that this would secure to the St. Lawrence the whole trade of the west with New York. We are informed that plans and estimates for this work are now in preparation; and that should the government decline to take the subject up, an immediate attempt will be made to secure the necessary funds through the capitalists of the State of New York.

Magnetic Telegraph.

The magnetic telegraph from Buffalo to Milwaukie is proceeding rapidly to completion. The contractor, Mr. Cornell, has just made a contract for the wire. It is the best quality English No. 9, and weighs 350 pounds to the mile. We saw a piece of it twisted into various shapes without a fracture.—Mr. Cornell is also building the Troy and Montreal line, via Bennington, Rutland, Vergennes, St. Albans and St. Johns, and will have it completed in sixty days. This line will save the fluid much labor, as it now must go round by the way of Buffalo.

Fall River Railroad.

The business of this road is increasing beyond the most sanguine expectations of its friends. The following are the receipts for three months, ending August 31st:

June	$11,000
July	15,000
August	16,599
	$42,599

These earnings are on a capital of one million only, and the road is free from debt.

Crampton's Narrow Gauge Engine.

With Large Driving Wheels and Low Boiler.

The Railway Chronicle, of September 11th, gives three views—a side, front and rear—of this remarkable engine, the "Namur," of which we have spoken more than once. By referring to the Journal of 22d May last, our readers will find a plan and specification of one of Crampton's engines with high drivers, and low boiler, but in that one the driving wheels are in the centre; in this, they are behind—the axle of the drivers being behind the *boiler*.

"This engine," says the Chronicle, "has been said by high authorities, on the London and North Western, to present the complete solution of the question of speed, as between the narrow and broad gauges, being run steadily smoothly, and safely, 75 miles an hour on that line." If this be so, we shall hear more of them, as it is said that "two of them have already been built, and several more of them ordered."

Telegraph.

"An electric telegraph is in active preparation along the railway from Vienna to Prague. When completed, every locomotive engine is to be furnished with a small electric apparatus, by the aid of which and of a wire it can be put into communication with the telegraph, and thus announce to every station the events necessary to be known."

This is an excellent idea. It is in accordance with our views in relation to the erection of telegraph lines along the lines of railroads, as they can be more readily kept in repair and guarded, and can be more useful to community.

Influences of Railways.

The following article, under the head of "Promotion of Internal Relations," will apply as well to this country as to Europe. They will serve to make us familiar with important regions of country, of which we should know very little without them.—Light and intelligence will, by them, be carried into many a dark corner.

The Berlin correspondent of the Morning Post says: "The international relations grow from day to day more close and lively by means of the railways. Never before have we seen so many inhabitants of the capital of Austria among us as now.—A few days ago we read in one of our newspapers that all the managers of the whole chain of railways between Vienna and Hamburgh had been invited to favor with their presence the opening [on the 1st of September] of the Hungarian central line from Pesth to Szolnock. Ten years back the number of the people of Berlin or Hamburg who had visited the interior of Hungary, was exceedingly small. Also in many other respects do the railways act as connecting links between the Austrian and North German elements. The tariff centner, or cwt., of 100 lbs., has thus now also been adopted as a general measure along the Ferdinand north line, and will probably assume the same character also on the other Austrian railways. The weights and measures will no doubt be followed by the coins."

Railway Traffic.

From official returns, it appears that the amount of traffic for the week ending Sept. 18th, on upwards of 3,152 miles of railway, was £210,147, thus accounted for: £117,846 for the conveyance of passengers only, £46,358 for the carriage of goods, and a remainder of £45,943 for passengers and goods together, not respectively apportioned; being an increase of £25,860 over the corresponding week of last year, when the mileage was about 2,525. This increase is not in proportion to the extension of the system.

Erie Canal Enlargement Resumed.

Our readers will rejoice to learn, says the Niagara Courier of 15th ult., that the arrangements preparatory to commencing the second tier of enlarged locks at this place, are now complete, and that on Monday last the laying of stone commenced. William Buell, Jr., the contractor, has made arrangements for the prosecution of the work in the most vigorous manner, and the high praise which has been awarded to him, for his intelligent and efficient management, upon late and important works on the Welland canal, affords a sure guarantee that this much needed work will be completed at the earliest possible day.

Railway Gossip.

The Railway Chronicle says that Mr. Crampton's new locomotive, the "London," which had been recently laid up for alterations, is again at work, effecting nearly a mile a minute with heavy trains; and that Lady Davenport is considered a *rara avis* among land owners. It is said that her ladyship is willing to forego for five years the payment for the land required by the Manchester and North Staffordshire.

The *York and North Midland* railway has, within twelve years from its formation, increased from 23 to 310 miles in length.

Messrs. Newall, of Gateshead, have made an iron rope for the Edingburg and Glasgow of the length of 4,660 yards. It weighs 20 tons 5 cwt., and is worth £1,230. A hemp rope would have been dearer and heavier.

It is said that the employees on working railways form already a considerable army. A return just issued shows that there are 47,218 officers and men employed on seventy-four railways in England and Ireland opened for traffic, the gross length of which is 3,305 miles, having 1,040 stations. There can be no doubt that the existence of a troup of men so orderly and well trained as are railway officers, is a great political advantage.

The Chronicle says that the average fare paid by each traveller on railways during the year ending June, 1846, appears to have been two shillings and twopence. Such is the result shown by a parliamentary return, exhibiting the number of travellers on 63 railways in the United Kingdom during that period, and the amount of receipts from each class. The number of passengers who travelled by first class was 6,160,354; by second class, 16,931,065; by third class, 14,559,515; by parliamentary class, 3,946,922; by mixed, 2,193,126—total, 43,790,983. The amount of receipts from passengers was: first class, £1,661,897 19s. 10½d.; second class, £1,937,946 19s. 11d.; third class, £738,474 4s. 11d.; parliamentary class, £293,732 7s.; mixed, £93,164—£4,725,215 11s. 8½d. The amount received for

goods, cattle, etc., was £2,741,200 16s. 6½d. Grand total, £7,466,416 8s. 0½d. The inference from these data is, that the average distance travelled by each person must have been somewhere between 20 and 23 miles, and cannot have been so much as 26 miles—a result which shows how considerable the short local traffic must be.

Menai Straits—Tubular Bridge.

We published in the Journal of September 4th, a letter of General Pasley, addressed to the London Times, in which he descants somewhat severely upon the various "projects" proposed by Mr. Robert Stevenson, for passing the Chester and Hollyhead railway over the Menai Straits. Since the publication of General Pasley's letter, there has been a meeting of the Chester and Hollyhead railway company, at which Mr. Stephenson replied to the General in the following terms. We quote the *Railway Record's* report:

"General Pasley makes only a statement, or rather gives a detail of conversations which took place between us relative to the principle of the use of iron tube bridges. General Pasley states, that at first he approved of the principle adopted by me, and there is not in his letter one paragraph to condemn that principle—nay, he distinctly repeats that he approves of the principle. What he complains of is the mode of erecting the tube. Now, gentlemen, there are only two or three persons who know the facts connected with the mode proposed, and General Pasley cannot possibly be in possession of any information which can at all justify his prediction. The original plan was to use chains to raise the tube to a level with the platform of the railway, which chains could be removed when the tube was fixed. Afterwards, we altered the mode of raising the tube; and it is only to this mode about which General Pasley cannot know anything—for, as I have said, it has been confided only to two or three persons—that objection is taken. I believe any apprehensions that may be entertained are of a very vague character, and that it is mainly the novelty of the plan which gives rise to such apprehensions. I believe the objections have nothing in them; the plan is only an application on a gigantic scale of an old principle.

"I beg to say, gentlemen, that they have created no apprehension whatever in my mind; they have not altered my convictions in the slightest degree; and though, as in all great works, difficulties doubtless will arise in the course of their execution, these difficulties, I am satisfied, will only be such as will suggest the remedy as they occur. I believe nothing will occur which we shall not be able to correct. I shall myself be on the spot; and I repeat, that though I never knew any great work of any kind in which difficulties have not arisen, I entertain no doubt that in this case they will be readily surmounted. I beg, therefore, that the proprietors will dismiss all apprehensions on this point from their minds. The scheme involved long and experimental investigations, exceeding anything that had ever taken place before; but I felt that a large expense was fully justified to test and settle the details of the bridge. I believe we have so settled the matter; and I have reason to know that the most eminent engineers and mathematicians approve of the principle.

Mr. HENMAN had understood General Pasley's objection to be, that Mr. Stephenson now intended to abandon the suspension principle which he had originally fixed upon. Now, he would be glad to know if Mr. Stephenson was of opinion that the tube, being of so large a span as 450 feet, would be able to bear the trains, and withstand the vibration, without support from chains at intermediate points.

Mr. STEPHENSON.—I wish it to be distinctly understood that I never designed the chains should form an essential part of the permanent structure; they were originally proposed, not for supporting the tube, but for raising it. As we proceeded, I found that, by increasing the weight and size—or rather, I should say, the weight only, for the size has never been altered—we could dispense with the chains altogether. I believe that it may be looked upon as fully settled, that, as respects the strength of the bridge, the chains would rather be a deterioration than otherwise. As regards vibration, there are certainly various opinions; but, for my own part, I think that no vibration at all will be felt. My reason is, the relative ratio of the weights of the tube and the trains. Take, for instance, a train of even 100 tons, then, as the tube is to be 1,200 tons weight, I ask whether, with such relative weights, the tube is likely to be thrown into vibration? I say it is impossible. If the ratio of weights were reversed,—if, for instance, the train should be 1,200, and the tube 100, such vibration would, undoubtedly, arise. I believe that the tube will be as firm as a rock—that it will suffer no vibration at all; at least, not more than everything does over which a train passes.

We quote the following description of this stupendous work, in its present state of progress, from the letter of a correspondent of the *Manchester Examiner:*

"If we suppose ourselves stationed in a boat in the middle of the Menai Straits, a few hundred yards distant from the new bridge on the south side, and suppose it finished, we shall see a wonder of the world of this kind. First, there is the middle pier rising out of the water, founded on the Britannia rock, after which the bridge is named. This rock can be seen at low water. The breadth of this pier is 62 feet by 53 feet and a quarter of an inch. The blocks of stone are 7 and 8 feet long by 3 and 4 feet in breadth and deepness, and they rise, stone upon stone, until the pier is 230 feet high. At the distance of 460 feet on each side of this centre pier there rise, near the water's edge, two other piers of the same gigantic breadth and height; while, on each side of these two piers, at the distance of 250 feet, there rise two walls. Continuing outwards, the wall on our right hand, on the Carnarvon shore, does not extend its ponderous bulk far back, for the land is high and bold, and the railway comes along its elevated brow, and at once lays hold of the bridge. But on our left hand, which is the Anglesea shore, the wall is the forehead and end of a mighty embankment, on which the railway is raised to the level of the bridge. There, then, are the four spaces before us, across which, in the iron tubes, the railway is laid, namely, two spaces on each side of the centre pier, of 460 feet each (let the reader measure 460 feet on a street or on a road, and he will wonder at the vastness of this structure;) and two more spaces of 250 feet respectively, at each end. The tubes are eight in number, each of them 30 feet on the exterior side, and 27 feet high in the interior. Each is 14 feet wide, and they are laid in couples parallel to each other. In the whole, with the breadth of the piers and the landward buildings, the length of the bridge is one third of a mile. In height the three piers are, as already said, 230 feet. Measuring from low water mark to the bottom of the tubes, the height is 130 feet, the tubes being thirty feet on the side, and the pier 70 feet above their upper surface. At ornaments to the two walls which rise upon each shore, are four lions, two at each end of the bridge. The lions contain about 8,000 cubic feet of stone. They lie couched, and yet the height of each is 12 feet; the greatest breadth across the body is nine feet, the length 25 feet, the breadth of each paw two feet four inches. The tubes are made of plates of iron of various thicknesses, rivetted together. The iron increases in thickness as we proceed towards the centre. The roofs of the tubes are formed of cells, and also the floors. These cells are formed of iron plates set on edge, the cells of the roof being within a fraction of one foot nine inches square, and those of the floor being one foot nine inches wide, and two feet three inches deep. The rails on which the trains run, are laid on the cells of the floor. The flat bottom, the two upright sides, and the flat roof of each tube are formed of plates, the thinnest of which is a quarter of an inch, and the thickest three quarters of an inch. The weight of each of the four long tubes will be about 1,300 tons; the weight of each of the four short ones, about 600 tons. In the whole, there will be at least 7,600 tons of iron used. The masonry was contracted for by B. J. Nowell & Co., at 130,000*l.*; but, from alterations in the plans, it will cost 200,000*l.* They expect to finish the masonry by August, 1848. It will contain 1,500,000 cubic feet of stone."

Railway Service under Existing Circumstances.

We find the following remarks on this subject in the London Railway Chronicle, of 18th September; and, as they relate to an important matter, deserving of constant and watchful attention in this country, as well as elsewhere, we give them a place in the Journal, and shall endeavor to do the same by those which may follow from the able editor of that excellent paper on the subject.

It is well known that we are, and have been, the advocate of "low fares"—but *only* such low fares as would, by inducing an *increase* of business, increase the receipts, and thus be the means of enhancing the value of railway investments; and here is the difficult question to settle, viz: what are those rates? The answer can only be given, as we contend, after a series of experiments, instituted in accordance with the circumstances under which they are made. A rate of fare and charge which would

ensure success on the roads in Massachusetts, would not accomplish the same object in Virginia—so also what would give rich returns between populous cities will not pay expenses through sparsely populated regions, and between small towns. It is a matter, we believe, which requires the most thorough investigation, and judicious experiments by the engineers and directors, who ought to be gentlemen of intelligence, who are willing to yield pre-conceived opinions—and perhaps prejudice—upon good authority, or practical experience.

The editor says, "From the half-yearly accounts of all the great companies—with the exception of the Midland and Yorkshire system of lines under Mr. Hudson's management—one general deduction, it appears, may be pretty fairly drawn, viz: that the scale of passenger fares has already been lowered to the extreme point at which the work can be profitably done, while the other working arrangements subsist as at present. This observation may suggest the expediency of viewing the probable course of future affairs attentively, and reviewing more than one class of practical details, for the purpose of seeing whether something may not be attempted to secure the valuable interests of the owners against any injudicious effect from what has already been imposed, or may hereafter be laid upon them. From this inquiry it will be proper to exclude all reference to temporary circumstances, or to any cases of an exceptional kind. The proportion of net receipt to expense, for instance, has been effected on many lines by causes independent of the mere rates of charge: there have been serious casual checks to the ordinary flow of traffic—there may have been expenses that good management might have avoided, and may hereafter prevent. These are altogether foreign to the discussions we speak of. Nor will the conditions of a railway like the Great Western, with its peculiar system, both of fares and of structure, supply any materials for the general question, which is concerned with the universal tendencies that have affected or are likely to affect the prevailing national system.

"Setting all casual matter then aside, these points, we think, may be distinguished on the ground already cleared:—1st. That the current business on the main lines, at existing rates, is greatly reduced in its profitable income. 2ndly. That the business on the additional branches, when they are completed, is not likely to return a rate of profit equal to what the principal trunks may still earn;—while the proportion of the accessary to the chief lines is increasing, so that the supplement may soon become greater, in mere lineal extent, than the original body. 3lly. That in the article of charges no alteration of any consequence, in favor of higher rates, could be prudently attempted now; and that the efforts of the public, seconded by the State, will be continually applied to bring them still lower hereafter. These are positions to the bearing of which it behooves all concerned in railway management to be attentive; and they lead, we think, to conclusions of a practical kind, that deserve consideration for the sake of all owners of railway property.

"We propose, therefore, to examine next week what those conclusions are; and to what extent it may be proper and convenient to act upon them in the ordering and working of the current traffic on the railways of this kingdom under existing circumstances."

SARDINIAN RAILWAYS.

It would seem that the railway fever has reached every government in Europe, and we shall expect soon to hear that the *Sultan* has given orders for the construction of railways within his dominions.

The following article, which we find in the Chronicle, speaks of the works projected in Sardinia—and of *tunnelling* the mountains, as though it were a mere trifle. It says:

"The Sardinian railways will be composed of three great trunk or principal lines, diverging from the central point, Alexandria. The following account is furnished by the Morning Herald. The first will pass by way of Genoa the Superb, across the Apennines;—the second by way of Turin, to Asli, world-renowned for its famous white wine—the proper accompaniment to the small, sweet, plump oyster of Genoa. The third will pass by Valenza and Novarra to lake Maggiore. On the first named line, workmen have been employed on all the points for a considerable time, and the tunnel *dei Ginghi*, which is to pierce through the Apennines for a length of 3,000 metres, and which it is said will cost 8,000,000, is going on so vigorously that it is reported it will be finished in 1850. During the severe winter which we have just passed, from 20,000 to 25,000 workmen were employed on this line, for the space of four or five months. On the third line—namely, that from Alexandria to lake Maggiere, workshops and smitheries are open in the neighborhood of Novarre; and the magnificent viaduct of Valenza, over the Po, which is to cost 4,000,000, has been already commenced. Complete surveys have also been made for the Turin line to France, by way of Savoy. The position of the tunnel through Mont Cenis is already determined on. On the Italian side it will commence above Exilles, a few leagues from Suza, and open out on the other side, on the slope opposite the village of Modene, in that sweet valley near St. Jean de Maurienne. Let the reader reflect with pride, that a tunnel of 10,000 metres, under the Mont Cenis—a work, the mention of which fifteen years ago, would be received with a smile of incredulity—is destined to be accomplished in the era in which we live.—Yet are not our boastings very vain and very empty? for after all, as the wise man says, there *is* nothing new under the sun. In the Roman States a tunnel or subterranean passage for an aqueduct existed, as is truly stated by a writer in the *Revue des Deux Mondes*, from one side of the Apennines to the other more than twelve centuries ago; and why should not modern science be enabled to achieve for locomotive engines and their passengers that right divine of way which the old Romans sought and found for water?—The chief engineer of the Sardinian government has invented a machine for the purpose of perforating the mountain, and it is not to be supposed that the influx of water will present anything like the obstacles Mr. Brunel had to encounter in the Thames tunnel. The easy and prosperous state of the finances of Sardinia will enable the State to accomplish with ease these gigantic and important works and several others of minor interest, to which it is not necessary more especially to refer. The cardinal and most pressing task of Piedmont is, however, the finishing of the great line of communication between Genoa and lake Maggiore, and to this her chiefest energies should continue to be directed. Before such a work the paltry toll gates, the petty and vexatious *octrois*, *peages*, *douanes*, and *doganieri* of Italy must fall: and probably before 1850, we shall see the day when an English gentleman shall cross the Alps and Apennines, and pass the Po and the lazy Brenta, described by Ariosto as

....un fiume
Che verso il vicin mar cheto si muove,

without once unpacking his travelling bag."

RECIPROCAL RELATIONS OF RAILWAYS AND THE RAILWAY PRESS.

We often find, in the Railway Chronicle, views put forth exceedingly appropriate and just—and although designed for another country, we consider them equally appropriate here, and therefore give them to our readers that they may apply them if *they* are of our opinion.

There can be little doubt but that the *system* is indebted to the *press*, and therefore the press ought to be liberally sustained by the system.

"There are certain *reciprocal relations* between *railways* and the *railway press* which, as recent events prove, are not sufficiently understood or satisfactorily carried out. At the South Eastern meeting, Mr. Macgregor very properly acknowledged the great service which the railway press rendered in opposing and successfully defeating the attack on railways threatened by the Strutt bill. At the same meeting, it came out, in answer to a shareholder, that under the impression of saving a small sum, the usual practice of advertising the meetings in the railway press had not been followed on this occasion. The excuse given was that notices had been sent by post to all the proprietors. As a matter of mere convenience to shareholders, it is clear that an advertisement is far better than a posted letter. An advertisement stands as a record for all time. Besides it certainly is the duty of railways, in return for the support and good which they undoubtedly receive from the railway press, to make it the interest of the proprietors to support that press; and the habit of recording all matters of fact in the press would have a wholesome tendency in inducing shareholders to consult the press for information. But there is another view which may be fairly insisted on. The only legitimate return which railways can make to their advocates and supporters is by *Advertising*—and railways are bound to do this. In the time of the mania, railways for their own purposes advertised freely enough, but when economy becomes important, advertising is narrowed or neglected, though its importance is quite as great for all legitimate railway purposes. Our readers will have remarked that recently a small proportion only of the numerous half yearly meetings, or the resolutions passed at meetings, have been ad-

vertised in any of the railway papers. We contend that these advertisements are the right of the railway press, and that no plea of economy justifies the withholding them. If the railway press saved, as it did, railways from the Strutt bill, it savors a little of ungrateful neglect not to make the only return which railway companies have it in their power to make—namely by *Advertising*."

SPEED, COMPETITION, THE FOUR RAIL SYSTEM, AND THE TRUE PRINCIPLES OF GOODS AND COAL TRAFFIC.

Views of Mr. Stevenson, as given before the House of Commons.

The following extracts from Mr. Stevenson's opinions, given before a committee of the House of Commons—are taken from the Railway Chronicle. They appear not to have been before published—and they will probably be interesting to many of our readers. We give them a place in the Journal.

The Four-rail System, Economy.—In consequence of our fixed establishment we shall be able to carry the additional traffic we obtain cheaper than any other company can do. At present, as you converge towards London, the trains become more numerous, and when any of them are not in time they give rise to great disorder; not because the railway is incapable of carrying them when they keep their time regularly—for the London and Birmingham are capable of accommodating three times the amount of their present traffic, provided absolute punctuality is insured. More towards London the value of punctnality begins to tell most, and we want more lines.—A loop line from Tring to Banbury (the Buchinghamshire, since passed) would accommodate local traffic, and could also be made subservient to heavy traffic moving at slow rates. Four lines of rails from London to Tring would receive and divide the great tide of traffic flowing towards the metropolis (at present flowing on two lines of rail only) and by enabling us to serve the public better attract more traffic to us.

Competition.—Looking at the past, we may expect for some time to come that the hostile companies will go on devouring each other, though I hold the opinion very strongly that permanent competion is impossible. The object of companies who are in competition in laying out lines is generally for the purpose of maintaining the ground, in order that when the time does arrive for adjusting their differences, they may not be trampled on by their neighbors. I have the strongest possible opinion that perpetual competition is impossible, and that after the country is occupied there will be an adjustment. The Gt. Western are great preachers of competition, yet it is within my own knowledge that treaties have been going on between them and the London and South Western, of which a territorial division has been the basis!

Quick and Slow Traffic (London and North Western).—At present we are obliged to force on our goods train to make room for our passenger trains. The cost of conveying goods is augmented in consequence of that speed.—The public will never get the full advantage of railways until they can separate the slow traffic more or less from the quick traffic.—Up to a certain extent the mixture does not add to the expense of conveyance, but when the mixture becomes very great, or the income of the railway is derived as much from goods as from passengers, then, in order to convey goods more economically, it becomes desirable to convey them at a speed of, say, from 15 to 18 miles an hour, coals at a speed not exceeding 15 miles an hour, for it is impossible to convey them at 1d. or ¾d. per ton per mile, if they are to be hurried along at 25 or 30 miles an hour; the cost and the wear and tear are too great, besides coal is damaged very much by velocity. The clogging of the London and Birmingham line referred to has arisen from the tolls being very much lowered. Many persons thought that the reduction of tolls would not increase our traffic. Now, I held a different opinion. I always thought that by reducing fares on railways, especially the charges on goods, they would become great instruments of conveyance for the heavy class of articles—and so it turned out. So that a great increase came upon us suddenly, without our having either wagons or engines adequate for the increase.

Wear and Tear on Broad and Narrow Gauge.—Q. Is there no difference of pressure on the same weight of engine at the same speed on the broad and narrow gauge? A. None; the crushing weight is precisely the same, or rather the crushing effect of the wide gauge is greater at the curves than on the narrow gauge. If there was any difference in the tendency of the heavy weights to crush the rails, it would tell against the wide gauge at curves, because the wheels are keyed on the axle, and they consequently move round with the same velocity, and when the engine is going round a sharp curve there is a greater distance to go round upon the outside, so the inside wheel has to slide a little back, and the outside wheel has to slide a little forward; and, inasmuch as the difference of gauge increases the amount of sliding, the heavy weights will crush the rails more in the one case than in the other, but in a perfectly straight line the crushing is equal. Q. Is the rail stronger on the broad or the narrow?—A. The rails are laid by Mr. Brunel on longitudinal timbers. He takes the strength of the timber as well as the iron.—In the usual mode of constructing the narrow gauge you do not use the longitudinal timber, but you lay heavier rails instead. You get the bearing strength entirely on the rails in the one case, and in the other case partly on the timber.

Speed.—We are now in possession of speed that no permanent way in existence, broad or narrow, will be able to stand long. The wear and tear of the rails has been, in my opinion, nearly as the square of the speed.—If it were perfect machinery in every respect, the wear and tear arising from concussions, ought to be exactly as the square of the speed, and I presume it ought to be directly as an engine weighing double the number of tons would cause double the amount of crushing. Indeed, I know that speed is the great trial of our present permanent roads. The proof is that we have been obliged to strengthen them about 16 or 18 pounds per yard, and now there are some of about 90 pounds.—This increase of speed, the weight remaining the same, is a direct and large sacrifice of the profits of the company, which has operated, and is now operating with the London and Birmingham, and has led them to consider the propriety of duplicating the lines where they are compelled to run the heavy trains so quickly—that is between Tring and London. The interest of the capital they are about to expend to duplicate the line will be about £40,000 a year, the cost will be about £780,000.

The Origin of the Oxford, Worcester and Wolverhampton.—Is it a fact that this district applied to the London and Birmingham for accommodation and was refused, and was it in consequence of that refusal that the Oxford, Worcester and Wolverhampton line was originally projected? A. That, perhaps, is a rather harsh mode of representing it. But some of the London and Birmingham board entertained a notion at that time that railways were not really fitted for the conveyance of heavy goods, and they did not seek to obtain the traffic which the country demanded; and then again their accounts were kept in such a way as to make it appear that they lost money by the conveyance of goods. This was done by charging the goods with a portion of fixed expenses, which would have been necessary under any circumstances even for conveying passengers. Therefore when you debit the goods department with its proportion of the fixed establishment of the railway, then it does appear a loss to carry goods.—There may be one or two of the board now left who entertain their old opinions, but I know the management and system has undergone a complete revolution in that respect. I have always entertained the opinion that they ought to come down with their fares and carry heavy goods, and have urged it on the board. But I do not move out of the engineering department of the company. *I think that railways as instruments for the carriage of heavy goods, have not reached half their perfection or extent*, and will not untill we are permitted to separate the fast and slow trains. If we convey heavy goods at 15 miles an hour, I believe it will reduce the cost of conveyance to considerably lower than one-half of what it is now; so that a large quantity of coal may come to London from the Midland districts. At present it costs us three farthings per ton per mile In the north at Stockton and Darlington, where they convey the coal at nine miles an hour, every charge is included, and they carry it at one halfpenny a ton per mile. The breakage of coal is so much increased by rapidity of movement, that it becomes impossible to move ordinary coal wagons when they are on any of the main lines without springs. The speed brakes the coal all to pieces. Experience has shown that the *multiplication of railroads facilitates and creates much greater traffic than was anticipated. They reach on each other.* That is one of the most remarkable features in the extension of the railroad system—*the extraordinary reciprocation of traffic.* If by the multiplication of railroads,

and the adoption of economical modes of transit, you can reduce the price of coal, the demand for the article in London would be most prodigious, and in the country it would be very large. There are many agricultural counties where they do not know what coal is now.

Report on the Preliminary Surveys for the Milledgeville and Gordon Railroad.

Continued from page 631.

The estimates of cost are as follows:

Section First.—Earth Work.

Excavation	29,343 c. y. at 16,		$4,694 88
Embankment	64,798 "		
Excess of embankment,	35,455 " at 12,		4,254 60
Masonry.			
Mortared	none.		
Dry	89 cub. yds. at $3,		267 00
Bridging			
Trestlework	58,260 ft. b. m. at $15,		873 90
Piles	150 at $2,		300 00
			$10,390 38

Section Second.—Earth Work.

Excavation	56,699 c. y.		
Embankment	18,342 " at 16,		$2,934 72
Excess of excavation	38,357 " at 12,		4,602 84
Masonry.			
Mortared	none.		
Dry	142 c. y. at $3		426 00
Bridging.—None.			
			$7,963 56

Section Third.—Earth Work.

Excavation	30,758 c. y. at 16,		$4,921 28
Embankment	47,590 "		
Excess of embankment,	16,832 " at 12,		2,019 84
Masonry.			
Mortared	27 c. y. at $5,		135 00
Dry	99 " at $3,		297 00
Bridging.			
Trestlework	10,100 ft. b. m. at $15,		151 50
Piles	50 at $2,		100 00
			$7,624 62

Section Fourth.—Earth Work.

Excavation	18,291 c. y.		
Embankment	17,893 c. y. at 16,		$2,862 88
Excess of excavation	398 " at 12,		49 76
Masonry.			
Mortared	84 c. y. at $5		420 00
Dry	99 " at $3		297 00
Bridging.			
Trestlework	9,825 ft. at $15		117 37
Piles	38 at $2		76 00
			$3,853 01

Section Fifth.—Earth Work.

Excavation	42,669 c. y. at 16,		$6,827 40
Embankment	49,387 "		
Excess of embankment,	6,718 " at 12,		806 16
Masonry.			
Mortered	86 c. y. at $5,		430 00
Dry	64 " at $3,		192 00
Bridging.			
Trestlework	9,825 ft. at $15,		147 37
Piles	38 at $2,		76 00
			$8,478 57

Section Sixth.—Earth Work.

Excavation	39,633 c. y. at 16,		$6,341 28
Embankment	80,873 "		
Excess of embankment,	41,240 " at 12,		4,948 80
Masonry.			
Mortared	370 c. y. at $5,		1,850 00
Dry	114 " at $3,		342 00
Bridging.			
Lattice	150 ft. run at $15,		2,250 00
			$15,732 08
Cost of grading, masonry, and bridging,			$54,042 22
The quantity of excavation in cubic yards, is			217,493
The quantity of embankment			278,883
Total			496,376

ESTIMATE FOR ONE MILE OF SUPERSTRUCTURE.

13,360 ft. b. m. in stringers, at $7 per m.	$443 52
660 cross ties, at 20 cts	132 00
36 tons of iron, at $70	2,520 00
2,000 lbs. of splicing plates, at 4 cts	80 00
1,487 lbs. spikes, at 5 cts	74 35
Laying superstructure	450 00
Filling track	50 00
	$3,749 87

COST OF ROAD.

Grading, masonry, and bridging	$54,042 22
Clearing and grubbing	1,550 00
Right of way	2,000 00
Grading & superstructure for 1 turn out,	1,000 00
One warehouse, cistern, pump, etc., at turn out	600 00
One depot, with warehouse, passenger house, side tracks, sliding sections, turn tables, etc	4,000 00
16¼ miles of superstructure, at $3,749 87,	61,872 85
Engineering and contingencies	12,606 50
	$138,671 57

COST OF EQUIPMENT.

2 locomotive engines	$15,000 00	
2 passenger cars	3,200 00	
10 freight cars	6,000 00	
		24,200 00
Total cost of road and equipment		$162,871 57
Adopting a rail of thirty-two tons to the mile, the weight of the Central railroad flat bar, the cost of road would then be		$134,051 57
Equipment		24,200 00
Total cost of road and equipment		$158,251 57

COST OF MAINTENANCE AND WORKING.

The cost per annum of maintaining the road, as derived principally from the working of one of the principal railroads of this State, may, for the wood work, be estimated as equal to a renewal once in six years, or about seventeen per cent.; for the iron, as equal to a renewal once in twenty years, or five per cent., and the deterioration or washing of the earth work, at one per cent.—These items will be as follows:

17 per cent. on cost of wood work	$4,095 78
5 per cent. on cost of iron	2,145 00
1 " " " earth work	442 56
	$6,683 34

The cost of working the road, will, of course, depend very much on the amount of business. The cost of working the road before alluded to, is found to be about thirty-seven cents per mile run, against thirty-one for maintenance. But in view of the probable amount of business upon the proposed work, it is believed to be safe to place the cost of working as equal only to the cost of the maintenance, or - - - $6,683 34
To which add cost of maintenance, 6,683 34
Total, - - - - - $13,366 68

AMOUNT OF BUSINESS.

The following shows the number of passengers, by stage, and amount of freight between Gordon and the direction of Milledgeville, for the year 1845 and 1846, as furnished by the company's agent at that station:

1845—Passengers	1,520
" Bales of cotton	4,677
" Other freight, tons	687
1846—Passengers	982
" Bales cotton	4,593
" Other freight, tons	905

Of course the discrepancy in the number of passengers between the two years, is owing to the Legislature holding a session in 1845, and not in 1846. It is estimated by the agent, that 1,000 persons passed between Gordon and Milledgeville, in the same period, by private conveyance.

The following, in relation to the probable amount of business that would offer, was furnished by a gentleman who has given much attention to the subject. I submit it without expressing any opinion of my own, not being in possession of the facts, with the exception of the above statement, on which an opinion might be based. That the facilities which a railroad would afford, would greatly increase the business, admits of no doubt.

ESTIMATED RECEIPTS.

17,000 bales of cotton	$5,100
Other freights—Baldwin	4,000
" " Putnam	2,500
" " Jones	1,000
" " Jasper	2,500
" " Penitentiary	2,000
" " Factory	1,500
Receipts from mail	1,000
" " passengers	5,000
	$24,600

Which, after deducting expenses, would be equal to 7 per cent. upon the capital.

Permit me here to express the hope, that this work, so important to Milledgeville, and I may say, the interest and convenience of the State at large, will not fail of speedy accomplishment. To secure this end, it would seem but just, if I may express the opinion, that the State, if necessary, should come to its aid, by taking stock that would amount to a tax upon the public property in Milledgeville, equal or approaching that voluntarily assumed by the citizens of Milledgeville for the same purpose. The advantages to the State, in the item of transportation for the penitentiary, and in the enlarged market it would afford for its manufactures, must be obvious. Another important feature is, that on the completion of the Wilkes county road, which now appears to be placed beyond doubt, cars could be run from the very gates of the penitentiary to the State road at Atlanta—when it might become the work shop for many of the equipments, now furnished from the north, and elsewhere, at much greater expense.

In alluding to this subject at all, I do not wish to be understood as in any way conveying the views, on this point, of those interested in the work. These brief remarks are made entirely without previous consultation with any one. I am not apprised that it is contemplated to apply to the State, thro'

the Legislature, for such aid. My object is only to show forth the grounds upon which a claim might be fairly based.

In conclusion, permit me in this manner to express my thanks to Col. Kenan, Mayor, and to the other citizens of Milledgeville and its vicinity, to whose co-operation in the field and elsewhere, I am much indebted.

F. P. Holcomb, Civil Engineer.

Atlantic and St. Lawrence Railroad.

Annual Report.

We have received a copy of the report, giving the proceedings of this company up to 1st August last; from which we learn that they are making good progress. Twenty-eight and a half miles were then under contract, and a large portion of the work done—and eighteen and a half miles more were to be—and were—put under contract on the 10th of August, making 47 miles, or about one-third of the distance to Canada line.

We give the engineer's report in full—that the character of the country and the condition of the work may be understood. We also give an extract from the president's report, that the undeveloped resources of the country may be judged of; and from these it will be seen that the route, as a *whole*, is not only an exceedingly favorable one, but also that the completion of the road will open the door to resources and power, which would be of little value, at least for a long time to come, without it.

The terminus of the road at India wharf, in Portland, is exceedingly well situated for the transaction of an extensive business. It has a large water front with ample depth of water for shipping, and space for depot buildings, without interfering with the ordinary business of the city, and without being distant from, or inconvenient to, the principal business streets.

On a recent visit to Portland, we could see a manifest improvement in the *appearance* of the place—as compared with two or three years ago—showing that the influences of works of internal improvement are apparent from the date of their location—or at least long before their completion.

The people of Portland have done nobly in this matter, and they will find their interest in its results. They have also commenced a large establishment for the construction of locomotives and machinery; the buildings now nearly completed, are 300 feet long, by 60 feet wide—erected in a very substantial manner—near the depot.

We understand also that a *rolling mill*, for railway iron, is to be erected there at an early day—thus preparing to furnish the road, and at the same time to give it business.

It will be observed by Mr. Morton's report that the heaviest grade from tide is only fifty feet to the mile, and only thirty-five feet towards tide, or in the direction of the heaviest business; which is at this day, comparatively, not difficult to be overcome—and the curves are easy, with a large proportion of straight line.

Our readers, however, can appreciate its favorable points, and therefore we refer them to the ENGINEER'S REPORT.

Engineer Department,
August 2, 1847.

Hon. W. P. Preble, *President Atlantic and St. Lawrence Railroad Company.*

Sir: I have the honor to submit a brief report of the operations of this department during the past year, and the present state of your work now in progress.

At the date of the last annual meeting of the stockholders there had been 11 57 miles of the road located, and the grading placed under contract. The work was commenced about the 20th of August last, and has been progressing steadily up to the present time.

At that date, also, the preliminary surveys for a further extension of your road were in progress, embracing the examination of two routes, known as the Eastern and Western routes, extending from North Yarmouth to a point near Mechanic Falls, a distance of about 24 miles.

The results of these surveys were submitted to the board on the 22d of August, and soon thereafter the western route was adopted and a location ordered.

The line was located to a point in the town of Danville, a distance of 17·12 miles, and the grading and bridging let to responsible parties on the 23d of November last. A portion of this work was commenced in December, but the sevrity of the winter and the lateness of the spring prevented the contractors from progressing as rapidly as was desirable.

The contractors on the whole line have, during a portion of the spring and summer, labored under much embarrassment, resulting from the great scarcity of laborers and teams.

These difficulties have been enhanced in consequence of the large number of public works now in course of construction, and the great demand for laborers in this vicinity.

A large amount of work has, however, been done, and the grading of a number of sections is now nearly completed.

The total length of line now under contract is 28·69 miles, and it is divided into 18 sections, varying from 1 to 2¼ miles in length.

Section No. 1 extends from India wharf to Martin's Point road, and is 2·12 miles in length.

The total amount of excavation and embankment in the roadbed of this section is 72,000 cubic yards, of which 11,000 cubic yards are rock.

There have been 45,000 cubic yards removed, leaving yet to be excavated 27,000 yards, of which 2500 yards are rock.

There are 6,000 cubic yards of sea wall on this section, one-half of which is now completed.

The total length of pile bridging is 4,500 feet, 2,500 feet of which is nearly finished. The timber and piles for the remaining bridging are nearly all delivered and its construction is to be commenced immediately.

The cribwork for the wharf, and the filling in for depot grounds are under contract and progressing satisfactorily.

Section No. 2 is about one mile in length. The work on this section is done except the ballasting for the track.

Section No. 3. Length one mile. There yet remains on this section 8000 cubic yards of earth and 1500 yards of rock to be removed from road bed; the masonry is completed.

Section No. 4 is ·95 of a mile in length, and embraces the heavy work at the Presumpscot river.

There have been 67,000 cubic yards of earth excavated and deposited in embankment, and there yet remain 32,000 yards to be removed.

The bridge for crossing the Presumpscot river has two spans of 150 feet each, and its total length is 320 feet. The roadway is to be on the top of the trusses which are elevated 27 feet above tide.

The east abutment of the bridge is nearly completed, and the foundation of the pier is ready for the reception of the masonry.

The work for the foundation of the west abutment is in progress.

The steam under water excavator is now removing the mud and a considerable portion of the rock is laid bare.

A large portion of the stone required to complete the masonry is already delivered.

Sections Nos. 5, 6, 7, 8, 9 and 10, embracing a distance of 6½ miles, are all completed except dressing the slopes, etc.

Section No. 11 is 2½ miles in length, and the work is light. There have been 10,000 cubic yards of earth excavated, and a portion of the materials delivered for the bridge at Royal's river.

This bridge has one span of 120 feet, and is elevated 12 feet above the river. Section No. 12 is 2·35 miles in length.

The excavations and embankments on this section are generally light. There is, however, a considerable amount of masonry required for the bridge at the east branch, of Royal's river. There have been 9,000 cubic yards of earth excavated, and 900 yards of stone delivered on this section.

Section No. 13 is 2·4 miles in length, and the total amount of earth to be removed is 83,000 cubic yards. One-half of this work and all the culverts are completed.

Section No. 14. Length 2·48 miles. The work on this section is of a more expensive character.

Total amount of excavation is about 100,000 cubic yards, one-fourth of which is now done and the masonry nearly completed.

Section No. 15 terminates near Woodman's and is 1·93 miles in length. The grading of this section is not heavy, and there is but a small amount of mechanical work. About one fourth of the earth work is finished, and all the masonry is advancing rapidly to its completion.

Section No. 16. Length 2 miles. The total amount of earth to be removed from road bed, and new channel for Royal's river, was 87,000 cubic yards. The river has been changed at several points, by which the construction of two bridges on this section has been avoided.

There yet remain three bridges to be built of 60 feet span each, the materials for which are now being delivered. One-half the earth work and two-thirds the protection wall on this section are completed.

Section No. 17 is nearly 2½ miles in length and terminates at the Danville road. The work on this section is not in advanced state. The channel of the river has been changed on this section, by which two bridges are avoided.

There is one bridge of 90 feet span to be constructed. Considerable progress has been made in the grading, and one-half of the protection wall is finished.

Section No. 18. Length nearly 1¼ miles, and terminates at the Hotel road. The work on this section has been commenced, but not much progress has yet been made.

Measures have been taken to increase the force on all the heavier sections in order that the whole grading may be completed at nearly the same date. The portion of the line now under contract comprizes the heaviest work on your whole road, and if we except section No 1, the cost will still be less than the average of most other roads.

On nearly one half of the line now under contract, the cost of grading and bridging will not exceed $5,000 per. mile. The excavations and embankments have been laid out for a single track, having a width of 22 feet in excavation and 15 feet on embankments. The slopes are in the ratio of 1½ ft. base to 1 foot rise. The larger mechanical structures are designed with a view to a double track. The pile bridges are both in the vicinity of the terminus and are constructed of the requisite width for two tracks.

The masonry for the Presumpscot bridge, and other structures which cannot be enlarged hereafter for the second track, without great difficulty and excessive cost, have been designed for a double track. The woodwork is for a single track, and so arranged that the additional width for a second track may hereafter be given without any interruption to the traffic of the road or difficulty in the execution of the work.

The total disbursements through this department up to the 1st of August, 1847, amount to $131,175 99.

By a resolution of the board, dated June 21st, 1847, the extension of your road was ordered to a point in the town of Paris.

The location of this division of the road has been made, and the work advertised for letting on the 10th inst.

The length of this division is 18 57 miles, making a total distance from Portland of 47¼ miles. The work on this division is unusually light, and the soil is generally sand.—There will be but a trifling amount of rock excavation on the whole line.

The alignment of the road is favorable—there being 37 13 miles, or 78 per cent. of the whole line straight.

The following is a synopsis of the grades of your road so far as located:

Level		12 58 miles.
Less than	5 feet per mile.	1·75 "
from 5 to 10	" "	3·60 "
" 10 to 15	" "	3·55 "
" 15 to 20	" "	6·21 "
" 20 to 25	" "	6·07 "
" 25 to 30	" "	3·07 "
" 30 to 35	" "	10·40 "
		47·26 "

Before closing this report, it is proper that I should briefly allude to the surveys made at an early period for other portions of your road, and the general features of the country through which it passes.

From reports heretofore submitted to the board you are aware that your present engineer department was organized about the 1st of November, 1845, and that the fall and winter were occupied in making preliminary surveys of the various routes proposed for your road.

The great extent of country to be examined, and the advanced period of the year at which these examinations were commenced, necessarily required that the field operations should be continued through a considerable portion of the winter.

These surveys extended over the whole country between Mechanic Falls and the boundary line of Canada, embracing a great variety of routes, a number of which passed through a new section of country, in the survey of which at that inclement season of the year many difficulties were encountred.

The whole was completed by the middle of February, 1846, giving an extent of line surveyed of over 250 miles, and the results of these examinations reported to the board in the month ensuing.

Without again repeating the elaborate details of the various surveys, which have been given at full length in the several reports heretofore submitted, I would only here observe that those examinations demonstrated that the country was of the most favorable character for the cheap construction of your road, with grades and curvatures—admitting of great speed and economy of transportation.

That the distance from the Province line to Portland by the *longest* route surveyed, was about 150 miles, and that the line follows for nearly the whole distance the vallies of large streams, allowing gentle grades which are generally descending towards the seaboard.

The principal undulation in the profile of the road is in passing from the Connecticut to the Androscoggin valley, and from the latter to the Little Androscoggin.

Commencing at the boundary line and following this route, the average descent of the Connecticut valley to Northumberland, a distance of 30¼ miles, is 6¼ feet per mile; thence following up the Ammonoosuck river to the summit between it and the Androscoggin, a distance of 22 miles, the average ascent is 9¼ feet per mile, and from the latter point to Bethel where the line leaves the Great Androscoggin river, a distance of 29¼ miles, the average descent is 14¼ feet per mile.

Thence ascending to the head waters of the Little Androscoggin, a distance of 18¼ miles, the average ascent is 3 19 feet per mile; thence following down the Little Androscoggin to a point where the line strikes across to the valley of Royal's river, a distance of 21¼ miles, the grades maintaining the requisite elevation to pass without a summit, the average descent is 15¼ feet per mile.

From this point to Portland the distance is 28¼ miles, nearly the whole of which distance the road follows the valley of Royal's river and its branches, or other small streams; having but few undulations, and no grades that will exceed 35 feet per mile.

These vallies are all favorable, being generally broad and having nearly an uniform descent and a good general direction.

The ground is such as to permit a favorable distribution of the rise and fall, requiring no excessive cuttings or embankments.

The above indicates the general features of the vallies followed by your road. In adapting the grades to the ground so as nearly to conform to its general surface and to permit the most economical construction, greater inclinations will of course be required than those above given. The maximum, however, *ascending west*, will not exceed 50 feet per mile, and *ascending east*, 35 feet per mile—both being comparatively for a short distance.

From the character of the business which will be done on your road, it is evident that much the greatest amount of tonnage will be in the direction of the seaboard, and it therefore becomes important in its location, that the grades should as far as practicable be so arranged as to favor the preponderance of the trade.

The character of the country fortunately enables us to accomplish this to a very great extent. From an examination of the profile of the line, it will be observed, that over 110 miles of your road will be either *level or descending towards the Atlantic*, and that a large portion of the remaining distance, the grades are gentle, and in no case will exceed 35 feet per mile.

The country through which it passes is mostly a well cultivated and fertile agricultural district, and abounds in all the elements of wealth. There is an unequalled extent of water power in the vicinity of the line, a portion of which is improved, and it only requires additional means of intercommunication to bring the whole into successful operation, and to develope the great resources of the country.

Your road in connection with the St Lawrence and Atlantic road in Canada forms a perfect line from the Atlantic at Portland to the St. Lawrence at Montreal, and adopting the *longest route* yet surveyed for each of these roads, it is much shorter than any other line of roads yet projected between the St. Lawrence and the seaboard.

The arrangement entered into by your company with the Provincial corporation, provides that the whole business of the two roads shall be done upon the same basis, and rendering them, so far as the cost of transportation is concerned, nearly equivalent to one line.

All the other routes between the St. Lawrence and the seaboard, which may come in competion with your road for the western trade, will labor under the disadvantage of not only being much longer, but will be operated by six or seven different corporations. All of these corporations having a separate organization of officers, agents, engineers, etc., and each furnishing their own motive power for their respective roads, several of which are short, and operating the whole in connection, are subject to greater expense than one corporation working an equal aggregate length of road.

Your road and that of the Provincial cor-

poration are of such length as will permit their being operated in the most economical manner, which, together with their superiority in other respects, will enable you to compete successfully with any rival road.

In conclusion it may be well to observe that the Provincial corporation is vigorously prosecuting the construction of its road, 45 miles of which are now under contract. It is expected that 30 miles will be completed and opened for business in August next.

This part of the line passes through a level and highly cultivated country, affording great facilities for the construction of a perfect road.

On that part of the road now located, the grades are uniformly easy, and nearly 95 per cent. of the line is straight. That corporation is extending its surveys with a view to determine definitely the route to the boundary line, and the most feasible point for uniting with your road.

With the same object in view, and in compliance with a resolution of your board, I am also about to commence the surveys on this side of the boundary.

I have the honor to be, sir,
Your obedient servant,
A. C. MORTON,
Chief Engineer.

The financial condition of the company is exhibited in the TREASURER'S REPORT.

The treasurer of the Atlantic and St. Lawrence railroad company, in compliance with the by-laws, respectfully submits to the stockholders a report of the transactions of the office to the 31st July, 1847, inclusive.

The resources of the treasury to the above date have been from

Advance money on 10,189 shares	$50,945 00
First assessment	47,295 00
Subsequent assessments	89,970 00
In advance for future assessments	11,337 07
Interest and notes payable	39,479 87
Total	$239,026 94

The amount paid and finally chargeable to construction of the road, to January 31, 1847, inclusive, is the

Amount paid contractors for labor and materials delivered	$108,671 74
Engineer department, including instruments	22,504 25
Corporators' expenses for surveys, printing, etc	3,315 60
Office, agency and general expense accounts and interest	9,626 65
Fencing	1,888 27
Depot lands (of which $38,000 by notes of the company)	51,391 25
Land damages, ($195 30 of which by note of the company to guardian of a minor)	18,876 40
Total	$216,274 16

The treasurer's books and accounts have been examined and found to compare with the trial balance sheet as adopted by a committee appointed by the directors.

There have been five assessments of $5 per share made by the directors; the fourth was payable only on the 26th July, and the fifth is not payable till the 28th August, inst.

In the purchase of the real estate for depot accommodations, a credit was allowed on an amount of $38,000; and adjusted by notes of the company on time as follows:

$15,000	payable in 1 to 15 years,	interest	semi-	ann.
10,000	"	10	"	"	"
8,000	"	1 to 8	"	"	"
5,000	"	15	"	"	"

with a mortgage of the premises as additional security. And on settlement of a life lease on one part of the premises, the company, under an award of the county commissioners, are obligated to pay an annuity of $40, during the life of the lessee and her mother, and the survivor of them.

CHA'S E. BARRETT, *Treasurer.*
Office A. & St. L. R. R. Co.,
Portland, August 21, 1847.

We make the following extract from the president's report, descriptive of the country through which it passes, and illustrative of its vast resources to be developed, and improved by the road; which, in turn, will be sustained, and its proprietors and the people of Maine enriched by its rapid and vast increase. He says—

"At their recent session the legislature of New Hampshire passed an act constituting the Atlantic and St. Lawrence railroad company a corporation within that State. The act is liberal in its provisions, and grants to this company all the powers it could reasonably ask for. It places the location, construction and management of the road in its whole extent from the Canada line to Portland, in the hands and under the control of the same company and under the regulation and management of the same board of directors.

"All objections to passing through New Hampshire being removed, the general route of the road may now be regarded as definitely settled. Commencing at the foot of India street on the navigable waters of Portland harbor, it passes onward about 11 miles to the valley of Royal's river at Gooch's falls, near the villages of North Yarmouth. Here the eastern sea board travel would naturally fall on to it. Following up the valley of Royal's river about 16 miles, it crosses the Danville road to a point distant about six miles from Lewiston falls. Here the Androscoggin and Kennebec railroad now in progress of construction connects with it, opening to, and bringing in upon it, to a large extent, the travel and business of Lewiston falls—of the Androscoggin valley—of the upper portion of Kennebec county, and also of the interior counties of Franklin and Somerset. Passing onward, leaving the valley of Royal's river, following up the valley of the Little Androscoggin, it strikes and crosses that river at Mechanic Falls, distance about 10 miles.—Here the Buckfield branch railroad recently chartered will connect with it, and here the road will receive the travel and business of that thriving and productive section of country. Pursuing upward the valley of the Little Androscoggin, passing in the vicinity of True's Mills, and Factory village, so called, or Craigie's Mills, about 10 miles, it reaches Paris Cape in the vicinity of Norway and Paris, drawing in upon it the travel and business of that rich and populous region. Still following up the valley of the Little Androscoggin, passing on the way Snow's Falls and Bacon Falls, it reaches Bryant's pond, the the source of that river. This point is 15 miles from Rumford Falls, on the Great Androscoggin, one of the greatest and most available water powers in New England. Passing from Briant's pond into the valley of Alder stream by Lock's Mills, the route strikes the bank of the Great Androscoggin near Bethel Hill village, distant from Paris Cape about 22 miles. Here the road will command the travel and business of the whole valley of the upper Androscoggin and of the Megalloway. Crossing the Androscoggin at Bethel, and following up its picturesque and romantic valley, bordered by the highest mountains in New England, the road in its course of about 20 miles, reaches Gorham in New Hampshire, distant from the base of Mt. Washington five miles only. From this point that celebrated mountain may be approached and ascended with more ease, in a shorter distance, and less time, than from any other accessible quarter in the vicinity of the White Hills. This point also is only five miles distant from Berlin Falls, the greatest waterfall in New England, where the waters of the Great Androscoggin, larger in volume than the waters of the Connecticut, descend nearly 200 feet in a distance of about two miles. From the valley of the Androscoggin, the road passes on a gradient of six miles of forty feet to the mile, over grounds of 1118 feet only above the tide waters of Portland harbor, into the valley of the Connecticut, reaching the banks of the Connecticut in the region of Lancaster and Northumberland in New Hampshire, and Guildhall in Vermont, distance about 26 miles. Here it is manifest the road will receive the travel and the business of the upper valley of the Connecticut and its tributaries, embracing the county of Coos in New Hampshire, and an important section of Northern Vermont.

"Here also the "*Montreal*" railroad through central New Hampshire will in due time it is hoped connect with ours, and form a circuit for the pleasure travel of the seaboard of N. England, passing from Boston by way of Concord and Meredith in the valley of the Merrimac to Lancaster, thence round north of the White Hills, and down the valleys of the Androscoggin and other rivers to the Kennebec country and Portland, and thence by steamboat or railroad to their places of residence. Following up the rich and highly cultivated valley of the Connecticut about 35 miles, the road reaches the parallel of 45 degrees north latitude, and connects with the St. Lawrence and Atlantic railroad at the boundary between the United States and Canada. Here, of course, the friends of the enterprize expect to receive for transportation to the seaboard the passengers and freight of the sister company, consisting of the rich productions of the west, and Canada, and of passengers seeking their way to Atlantic ports."

It may well be anticipated that, when this and the other roads now in progress in New England, shall have been completed, the pleasure travel will be largely increased, and that much of it will pass over this road on its way to or from the "White Hills" of New Hampshire and Montreal.

NOTICE TO CONTRACTORS.—GREAT WESTERN RAILWAY, CANADA WEST. Sealed proposals will be received until the 1st day of next October, at the Office of the Great Western Railway Company, for the Grading and Masonry of the Western Division, extending from London to Windsor, a distance of one hundred and ten miles; also for the branch to Port Sarnia, forty-five miles in length.

Plans and Specifications of the work can be examined at the Engineers' Office, in Hamilton and London, on and after the 15th of September.

C. B. STUART, Engineer.

Hamilton, July 30, 1847. 2m32

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.

Manufactured and for sale by

MORRIS, TASKER & MORRIS,

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,

1y Albany Iron and Nail Works,

RAILROAD IRON.—400 TONS ENGLISH, 60 pounds per lineal yard, of best manufacture, and expected to arrive about 1st October by London packets. Apply to

DAVIS, BROOKS & CO.,

1m37 68 Broad Street, New York.

FOR SALE—300 TONS (10 MILES) FLAT Bar Rail, in parcels or wholesale—section 2¼ inches wide by ¼ thick. The Rail has been several years in use, and its quality thoroughly tested—none but perfect bars delivered. Address

I. R. TRIMBLE,

1m37 *Wilmington, Del.*

DAY, CROSKY & ROSS,

COMMISSION MERCHANTS,

57 Threadneedle Street, London.

13 Orchard Place, Southampton.

SHIPPING & COMMISSION AGENTS

FOR

PASSENGERS, SPECIE, GOODS, PARCELS, etc.

☞ To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

☞ Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

July 31—3m ROBERT GRACIE.

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only*. Address

SAM'L KIMBER & CO.,

Willow Street Wharf,

4tf Philadelphia, Pa.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent.*

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, *Civil Engineer*,

Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

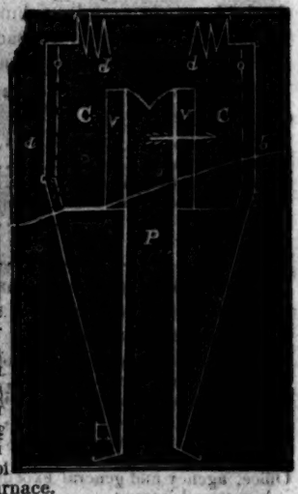
Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

a45 Paterson, N. J., or 60 Wall street, N. York.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.



Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

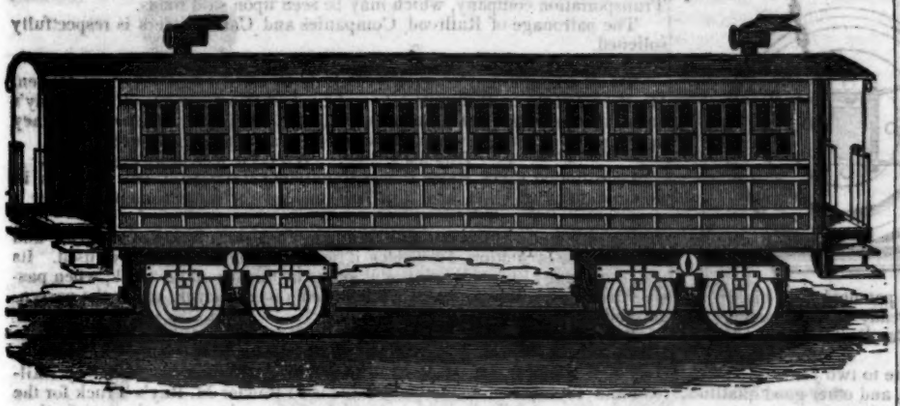
R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. j45

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.

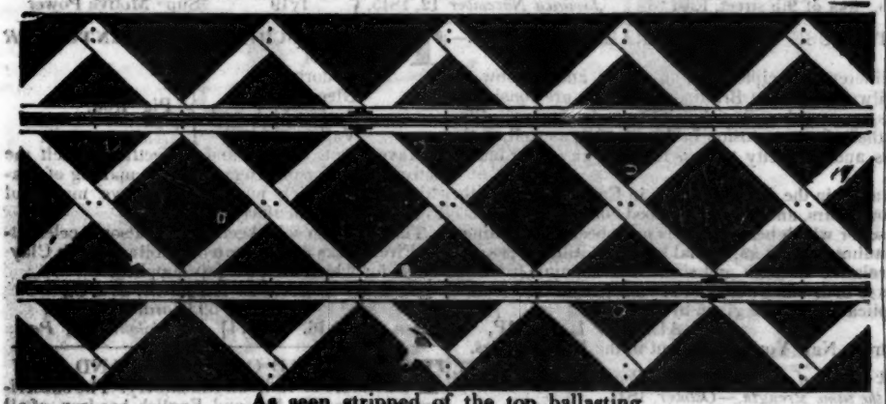


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 63,696 ft. b.m., at $10 =	$636 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

LAP—WELDED WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

RAILROAD IRON.
MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
Dec. 25, 1y* Maryland.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by
A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

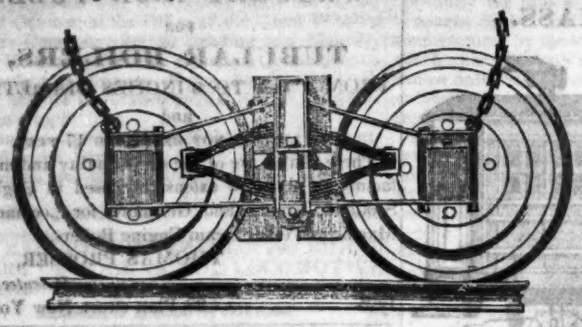
RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 23 1y

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New-York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.



The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its suitability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures theur from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	9	3	8¼	16	–	27	11-16	13½
14	3¼	6	11	7¼	12	8	17	9-16	10½
15	2¾	5	2	6¼	9	4	13½	1-2	7½
16	2¼	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

THE SUBSCRIBERS, AGENTS FOR the sale of
Codorus,
Glendon,
Spring Mill and
Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

FULLER & BROWN, Agents,
No. 139 Greenwich, corner of Cedar street.
June 1, 1847. 10tf

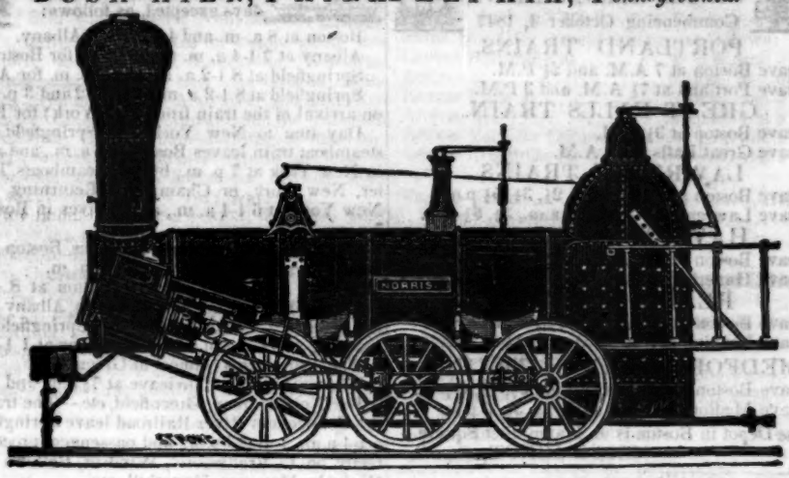
THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

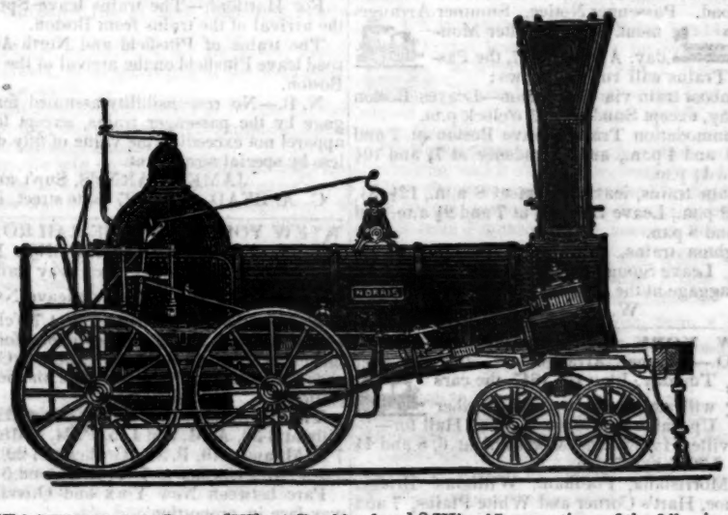
PETER COOPER 17 Burling Slip.
1y10 New York.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 105 Chestnut street.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches Stroke.
"	2,	14	"	"	"	× 24	" "
"	3,	14½	"	"	"	× 20	" "
"	4,	12½	"	"	"	× 20	" "
"	5,	11½	"	"	"	× 20	" "
"	6,	10½	"	"	"	× 18	" "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

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THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 1tf

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above Pipes, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p.m. on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent.

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quantties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than wher paid in the Cars.* ☜

3tf 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

26tf DAVID S. IVES, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

WINTER ARRANGEMENT, Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6 50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Havmarket Square.

1y31 CHAS. MINOT, *Sup't.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m.—Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c., to White Plains 50c. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany.

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M, daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to

1y14 STOCTON & FALLS, Agents.

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD—Distance 84 miles—connecting at Xinia and Springfield with Messrs. Neil, Moore, & Co's, daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columdus, Delaware, and the Mansfield and Sundusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as fllows

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon	....	$1 00
" " " Xenia	.....	1 50
" " " Springfield	..	2 00
" " " Columbus	...	4 00
" " " Sundusky city		8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

The 1¼ P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.

47tf W. H. CLEMENT, *Sup't.*

PATERSON RAILROAD

Summer Arrangement.

Commencing April 20th, 1847, the cars will leave

Paterson at	New York at
8 o'clock a.m.	9½ o'clock a.m.
11½ o'clock a.m	12 1-4 o'clock p.m.
4 o'clock p.m.	5½ o'clock p.m.

On Sunday.

8 o'clock a.m.	9½ o'clock a.m.
4 o'clock p.m.	5½ o'clock p.m.

25tf Office 75 Courtlandt St.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, conncting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	.....	9 a.m. and 3½ p.m.
Arrives at	.....	9 a.m. and 6½ p.m.
Leaves York at	.....	5 a.m. and 3 p.m.
Arrives at	.....	12½ p.m. and 8 p.m.
Leaves York for Columbia at	..	1½ p.m. and 8 a.m.
Leaves Columbia for York at	..	8 a.m. and 2 p.m.

FARE.

Fare to York	.....	$1 50
" Wrightsville	.....	2 00
" Columbia	.....	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at ..... 5½ p.m.
Returning, leaves Owing's Mills at ..... 7 a.m.

D. C. H. BORDLEY, *Sup't.*

31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	 190
Macon to Atlanta—Macon and Western	 101
Atlanta to Oothcaloga—Western and Atlaniic	.. 80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*

Savannah, Aug. 15th, 1846. 1y34

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles. This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$25 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

y25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.

Atlanta, Georgia, April 16th, 1846. 1y1

NEW YORK AND PHILADELPHIA RAILROAD line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line	9 o'clock a.m.
Mail pilot line	4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars	$4 00
Second class cars	3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD, FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—39 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 40	0 65
	Cotton, per 100 lbs.	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack.	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., *July* 15, 1847. 44*1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81	0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76	0 81
	and Chattanooga.				0 61	0 65
Between Augusta	and Decatur and intermediate points.	$0 24	1 70	1 15	0 85	0 90
	and Knoxville & intermediate points.	$0 24	1 70	1 20	0 80	0 85
	and Chattanooga				0 65	0 70
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32	2 20	1 35	1 05	1 10
	and Knoxville & intermediate points.	$0 32	2 20	1 40	1 00	1 05
	and Chattanooga.				$0 85	

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below. Per 100 lbs.....
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Cotton.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot	$0 20
Second class, per 100 lbs.	1 20
Cotton, per 100 lbs.	0 55
Third class, per 100 lbs.	0 60
Fourth class, per 100 lbs.	0 50

FRANKLIN HOUSE,

No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the *Office* is removed from New York to the FRANKLIN HOUSE, *Philadelphia*, where he will be always pleased to *meet* and *greet* them. They will not only find a pleasant *Reading Room*, with lots of *foreign* periodicals, treating of *Railroads* and *Machinery*, but they will always find *good-sized* and *airy* rooms—*clean beds*—and a *well supplied* table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor,

D. K. MINOR.

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This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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